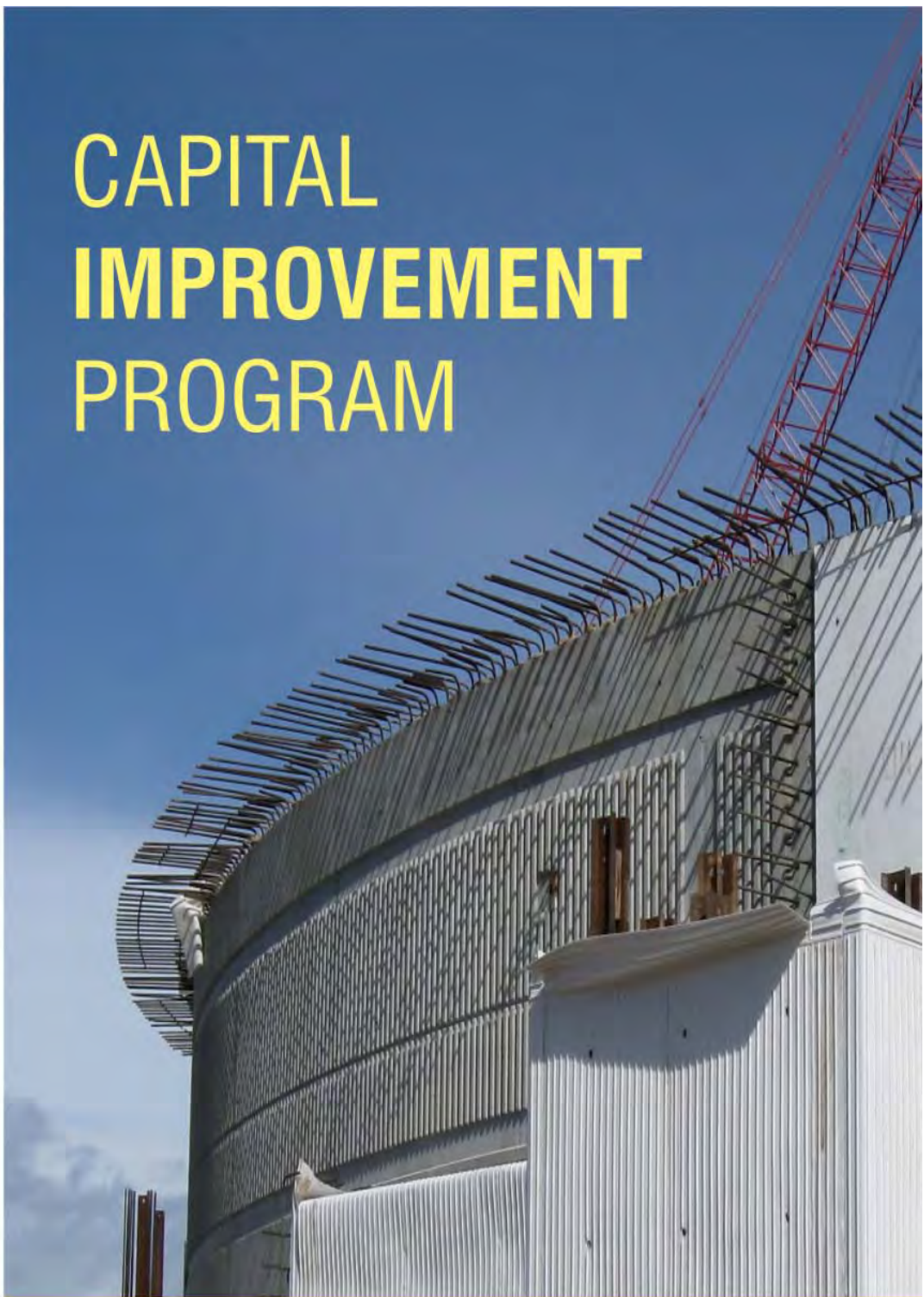




CAPITAL IMPROVEMENT PROGRAM



**Fiscal Year
2009-10 Update**



Orange County
Sanitation District, CA

We are in the home stretch...



Orange County Sanitation District



Mission

Protect public health and the environment by providing effective wastewater collection, treatment, and recycling.

From the Director of Engineering

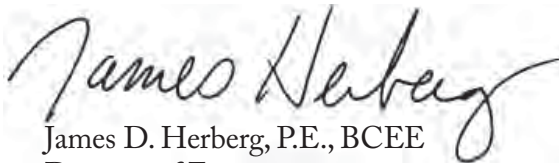
Seven years into our capital improvement program, we are seeing significant results. Progress includes upgrades and expansion of our secondary treatment facilities that we committed to as part of a voluntary 2004 consent decree with the United States Environmental Protection Agency and the Regional Water Quality Control Board to meet secondary wastewater treatment standards by December 31, 2012. We have met all four interim consent decree deadlines, and the remaining three are planned for an on-schedule completion.

It brings a sense of accomplishment to see this noteworthy progress being made. Since the start of the program in 2002, 66 projects have been completed at a total cost of \$540.6 million. Our staff has put forth a tremendous effort to ensure that this important program is on schedule and on budget.

The hard work doesn't end here though; we still have a long road ahead of us. In 2009, a Facilities Master Plan was developed to prioritize needed rehabilitation projects and to help address new challenges. This plan and our in-house asset management program will help us transition from a CIP focused on expansion and upgrades to one focused on maintaining and rehabilitating existing facilities to meet the service standards set forth for the Orange County Sanitation District.

We appreciate the efforts of past and present members of OCSD's Board of Directors for their significant support of our CIP.

Respectfully submitted,

A handwritten signature in black ink that reads "James Herberg". The signature is written in a cursive, flowing style.

James D. Herberg, P.E., BCEE
Director of Engineering
Orange County Sanitation District



As one of the largest wastewater infrastructure improvement programs in the country, OCSD's capital improvement program has projects ranging in size from \$500,000 to \$250 million, contracts with more than 30 design firms and 20 construction contractors, and a peak program cash flow of over \$1 million per day.

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1 Introduction and background

Agency information

The Orange County Sanitation District operates the third largest wastewater agency west of the Mississippi River. Since 1954, we have safely collected, treated, and disposed of and/or reclaimed the wastewater generated by 2.6 million people living and working in central and northwestern Orange County.

Each day we treat approximately 207 million gallons of wastewater, enough water to fill Anaheim stadium over two and a quarter times. About 80 percent of the wastewater comes from homes – sinks, toilets, showers, laundry, and dishwashers. The remaining comes from businesses – retail stores, restaurants, manufacturers, hotels, offices, and other industries.

A professional staff of more than 600 employees manages the day-to-day activities of OCSD. Our facilities include 580 miles of sewer pipes, located throughout the county, and two treatment plants – one in Fountain Valley and the other in Huntington Beach – where wastewater is treated in accordance with strict state and federal standards.

Our employees are on duty protecting your health and safety by ensuring the sewer system efficiently operates 24 hours a day, seven days a week and 365 days a year. We are very proud of the job we do and take pride in providing our customers with quality service.

OCSD's mission is to protect public health and the environment by providing effective wastewater collection, treatment, and recycling.

Capital improvement program overview

OCSD is currently in the midst of a \$2.9 billion capital improvement program. It is a challenging program, in part because our wastewater treatment plants must continue to operate in compliance with regulatory permit requirements during construction without disruption.

In 2002, OCSD's Board of Directors voted to increase our level of service so that all of our treated wastewater to be released into the ocean receives secondary treatment. Currently we operate under a modified secondary permit requiring us to meet specific milestones as shown on page 16.

Our capital improvement program consists of three parts: (1) rehabilitation or replacement of existing facilities; (2) upgrades in levels of service, including full secondary treatment, odor control, and other air quality improvements; and, (3) new capacity for planned developments within the areas served by OCSD.

While much of the current attention focuses on secondary treatment expansion projects, rehabilitation and replacement of existing infrastructure is critical to the long-term success of our program. Our CIP is now shifting to rehabilitation of existing facilities.

Each year the CIP is put through a validation effort to ensure that every project is needed, has the appropriate level of resources, and that it is scheduled properly. This validation accounts for cash-flow projections and planning efforts to assure projects are being constructed at the right time and with the right budget.

In an effort to support the CIP and help keep our customers informed, we have established a community outreach program. We have taken a proactive approach in educating and notifying residents and businesses of projects occurring in their neighborhood. We demonstrate concern and good faith by responding quickly and sincerely to address issues and provide reasonable solutions. We take a look at the effects we are having on people and the community and make adjustments where adjustments can be made while maintaining a responsible approach.

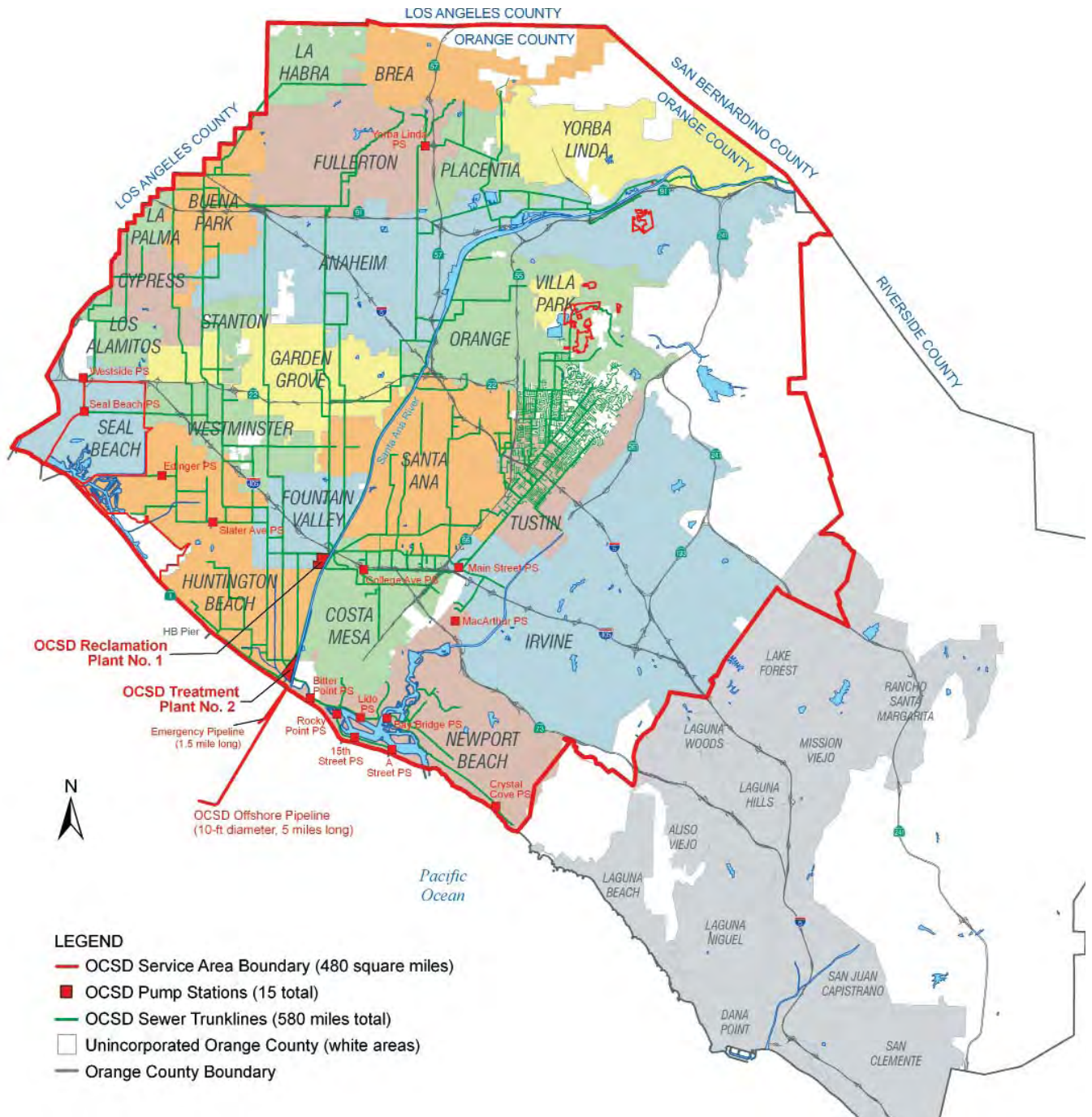
The long-term CIP requirements are determined through comprehensive planning efforts undertaken every seven to ten years. The Facilities Master Plan was updated in 2009 to determine the future needs of OCSD through the year 2030.

Information regarding our CIP and outreach program is available on our website at www.ocsd.com/construction. Sign up for e-notify to get alerts emailed to you. For questions or comments contact us at constructionhotline@ocsd.com or at 714-378-2965.

Highlights and accomplishments for Fiscal Year 2009-10

The engineering and construction portion of OCSD's capital improvement program is moving forward as can be seen by major improvements throughout the treatments plants and our service area. The engineering CIP for 2009-10 included 58 active projects. These projects were projected to expend \$247 million during Fiscal Year 2009-10 and closed the year with an actual expense of \$235 million. This is within five percent of that initial projection, showing that the projects are progressing as expected. This year, 12 new projects were initiated and six projects completed construction, totaling over \$51 million in contracts. Construction contract change orders for those completed projects were within projected goals at 4.5% of the contract value. Non-construction costs for the program remained below the goal threshold of 35 percent of the constructed value. Some specific CIP accomplishments are noted below:

- **Secondary Treatment Expansion Milestones** – The two remaining secondary treatment expansion projects that make up the federal consent decree milestones made significant progress during the year. These projects are on track to be completed in advance of their respective milestone dates. Once completed, OCSD will be in full compliance with the consent decree.



LEGEND

- OCSD Service Area Boundary (480 square miles)
- OCSD Pump Stations (15 total)
- OCSD Sewer Trunklines (580 miles total)
- Unincorporated Orange County (white areas)
- Orange County Boundary

OCSD Service Area

The Orange County Sanitation District collects, treats, and recycles wastewater from 21 cities, Costa Mesa Sanitary District, Midway City Sanitary District, part of Irvine Ranch Water District and unincorporated County of Orange. OCSD owns, operates, and maintains approximately 580 miles of sewer trunk lines across 480 square miles of Orange County, including some local, smaller-diameter pipelines in unincorporated County areas around northern Tustin and the City of Orange. OCSD’s collection systems of sewers includes 15 pump stations that lift and push water in low areas to one of our two wastewater treatment plants in Fountain Valley

and Huntington Beach, California. OCSD treats an average of 207 million gallons per day of wastewater. Approximately enough water to fill Anaheim stadium two and a quarter times. After the wastewater is treated, it is either sent to the Orange County Water District (100 million gallons per day) for reclamation or released out the end of a five-mile ocean pipeline where the water is slowly dispersed with the seawater at a depth of 200 feet through 502 small portholes.

- **Design-Build Project** – OCSD awarded its first project to be contracted under a design-build project delivery method, Rehabilitation of Magnolia Trunk Sewer (Project No. 3-58). In response to recent legislative changes that allow for this new contracting method, staff developed new procedures to advertise, evaluate, and select a design-build firm from five proposals for this \$15 million sewer rehabilitation project. By combining design and construction responsibilities under one contractor, it is anticipated that the project will take less time and have fewer changes than the traditional design-bid-build method. The 17-month project will begin in fall 2010.
- **SARI Realignment (Project No. 2-41)** – Two important milestones were accomplished this year on the Santa Ana River Interceptor pipeline relocation project in a cooperative effort between OCSD, the County of Orange, and the Santa Ana Watershed Project Authority. The preliminary design report was completed, defining all of the pipeline design parameters and alignment. All of the environmental planning work was completed, including certification of an environmental impact report by OCSD and the County of Orange. The project is currently about 70 percent designed and will be bid as multiple contracts beginning in early 2011.
- **2009 Facilities Master Plan** – OCSD completed a Facilities Master Plan that defines the CIP program into the future. This in-house effort was a collaboration of representatives from across all departments at OCSD. The Master Plan prioritizes needed repairs, includes space planning for future expansions, and helps address challenges, such as proposed greenhouse gas regulations. The Master Plan also includes the capital improvement needs through 2030 to meet level of service standards identified in the agency's strategic plan.

This planning effort will provide the structure for CIP project decisions as we move forward. It initially includes the need for 65 new projects, as well as studies scheduled to start with the 2010-11 Fiscal Year budget. The studies identified in the Facilities Master Plan will bring a higher level of definition to future proposed CIP projects.

- **Asset Management** – The Engineering Department formed a new division that is focused on developing rehabilitation projects that are essential to maintaining the levels of service defined in the Facilities Master Plan. In the future, the CIP will transition from treatment level upgrades and expansion to a rehabilitation program that will repair and renew aging facilities. This new division is anticipated to be the bridge between ongoing maintenance management and future CIP projects. Engineers are working with maintenance staff to use equipment condition and service levels of the existing facilities to determine the right time and project scope to efficiently replace or improve this equipment for future needs.

- **Safety Program** – We have developed a comprehensive safety program to reinforce safety as a priority across the CIP. The program focuses on improving work practices for staff, as well as taking a more active safety role with contractors and consultants working on projects. Efforts include improved project safety requirements; establishing safety accountability; preparing safety audits and job safety walks on construction sites; requiring and providing OSHA construction safety courses; developing a reporting structure and lessons learned to accidents and near miss events; and providing newsletters and reminders to reinforce safety awareness to everyday practice. The Owner Controlled Insurance Program (OCIP) is continuing into its third year and safety indicators are improving. This collaborative approach to safety is recognized by the OCIP insurance provider to be a key element in helping to reduce risk to OCSD.
- **Program Management Support Contract** – The Integrated Program Management Consultants (IPMC) program management contract for the CIP was \$1,240,000 under the approved annual budget with an actual support level of 55 positions, five less than the approved 60 positions. For Fiscal Year 2010-11, the contract includes a maximum of 54 positions and will be reduced to 42 positions by the end of the fiscal year.

In addition to providing support in all major areas of the CIP implementation, current efforts also include developing a plan to successfully transition all IPMC responsibilities to OCSD staff before the contract ends in 2012.

- **Engineering Achievement Award** – OCSD received the 2009 California Water Environment Association's Engineering Achievement Award for the Steve Anderson Lift Station (Project No. I-10B) commissioned in April



2009, located at our Fountain Valley treatment plant. The new lift station allows us to increase our intake of off-peak wastewater flows, giving OCSD the ability to deliver more water for reclamation to the Groundwater Replenishment System.



Activated sludge system clarifier basins – advanced primary treated wastewater is pumped to aeration basins where microorganisms, called activated sludge, consume the remaining organic solids. The wastewater is then pumped into settling basins, or clarifiers, where the activated sludge settles out. After this process, the wastewater is considered secondary treated water and is ready for reuse.

After secondary treatment expansion projects are completed, OCSD's treatment facilities will have the capacity to treat all incoming wastewater to secondary treatment levels. Secondary treated wastewater is then either pumped to the Orange County Water District for water reclamation or released through our five-mile long ocean outfall pipeline.

2 Highlighted capital projects

Collection system projects by city

OCSD’s collection system consists of 580 miles of trunk and local sewers as well as 15 pump stations. Collection system projects are intended to improve, replace, and rehabilitate this infrastructure to properly handle existing and future flow projections. Coordination for these projects is extremely important as it impacts the public and multiple agencies alike. Special efforts are taken in planning these projects to ensure we thoroughly assess and mitigate potential impacts and risks in our service area. We work closely with cities, businesses, schools, and residents in the community to build a trusting relationship and explain the long-term benefit of the projects.

Information regarding our CIP and outreach program is available on our website at www.ocsd.com/ construction. Sign up for e-notify to get alerts delivered directly to your email address. For questions or comments, contact us at constructionhotline@ocsd.com or at 714-378-2965. Some projects in OCSD’s collection system are highlighted below by city.



Costa Mesa

College Avenue Pump Station Rehabilitation (Project No. 7-47)

Construction was completed in early 2010 for the College Avenue Pump Station located on the corner of College and Gisler Avenue in a residential neighborhood. The pump station needed to be upgraded to meet current and projected peak wet-weather flows, as well as reach compliance with the latest electrical and safety codes. One of the biggest challenges for



The completed College Pump Station fits in with residences in the neighborhood.

the project was keeping the pump station operational while the upgrades were made.

The project team took a proactive approach meeting with the neighborhood and the City of Costa Mesa during the design phase to ensure the station was constructed in a manner that minimized visual impact and blended in with the homes in the area.

Huntington Beach

Coast Trunk Sewer Rehabilitation (Project No. 11-26)

Rehabilitation of the existing Coast Trunk Sewer along Pacific Coast Highway between First Street and Brookhurst Street in the City of Huntington Beach was completed in 2009. The project rehabilitated over 1.5 miles of pipe ranging from 4.5 feet to 7 feet in diameter. The rehabilitation was needed to protect the concrete from corrosion and extend the life expectancy of the sewer by 30 years. The line was rehabilitated by relining the pipe using spiral-wound technology. Performing the work in this manner instead of replacing the sewer reduced construction time and minimized impacts to the community. Coordination between the city, state beach, local businesses, and OCSD was crucial to ensure the success of the project.



The Westside Pump Station is another challenging site for construction, as the station sits between two houses in a residential community.

Los Alamitos/Rossmoor

Westside Pump Station Rehabilitation (Project No. 3-52)

This project consists of rehabilitating the existing Westside Pump Station to add pumping capacity and bring the station into compliance with the latest electrical and safety codes. Compliance requires that the electrical facilities be effectively sealed from the lower sections of the station; as such a separate access stairwell was constructed and the pumping equipment was installed 30 feet below ground. In an effort to improve the look of the facility, a new roof and gate were installed, and

enhanced landscaping was added. The pump station is situated between two homes making it a challenging environment for the construction crew. The limited space and extensive work have led to creative construction methods to ensure the pump station continues to run while the work is completed.

The project is approximately 90 percent complete and is scheduled for final completion in fall 2010.

Newport Beach

Balboa Trunk Sewer Rehabilitation (Project No. 5-47)

Construction of the Balboa Trunk Sewer will commence in the fall of 2011; it is currently in preliminary design. The 2.5 mile long sewer runs beneath Balboa and Newport Boulevard along the Balboa Peninsula in Newport Beach. It starts at A Street and ends just south of Short Street on Newport Boulevard. The project will rehabilitate a 15-inch and 24-inch diameter pipe which will increase the life expectancy of the trunk sewer by 25-30 years. By rehabilitating the sewer rather than replacing it, community disruption will be kept to a minimum and capital savings will be realized.

Bitter Point Pump Station Replacement (Project No. 5-49)

This project will abandon the current Bitter Point Pump Station and replace it with a new upgraded station. The facility is located approximately ¼ mile north of the intersection of Superior Avenue and Pacific Coast Highway. A new pump station is needed to replace the existing 70-year-old pump station which is too small for current and future wastewater flows, and does not meet current safety, electrical, and building codes.

Construction is currently underway adjacent to the existing site, with a vast majority of the work taking place in the West Newport Oil Company field minimizing traffic impacts on PCH and the neighboring communities. The pump station construction is currently five percent complete with an expected completion date of spring 2012.

Rocky Point Pump Station Replacement (Project No. 5-50)

A new Rocky Point Pump Station is currently under construction on West Coast Highway directly in front of the Balboa Bay Club and the Orange Coast College School of Sailing and Seamanship. The project is replacing the existing 70-year old pump station located on city property within the Balboa Bay Club parking lot. The new pump station will be larger and made to sustain current and future wastewater flows, as well as meet new safety, electrical, and building codes. There will be an above-ground structure housing electrical equipment and a second structure housing an emergency generator. The majority of the facilities will be below ground including the pump room, which will reduce noise and odor.

Portions of the larger Newport Trunk Sewer and force main pipe system will be reconstructed along West Coast Highway which will require traffic control at various stages of construction. While traffic will be impacted throughout the project, every effort is being made to assure there are always two lanes of traffic travelling in each direction.

The project is approximately 30 percent complete and scheduled for final completion in fall 2011.

Newport Trunk Sewer and Force Main (Project No. 5-58)

This project installed over 1.5 miles of 3-foot diameter pipe along the existing pipeline corridor from the Bitter Point Pump Station (currently under construction), across an existing oil field adjacent to the Santa Ana River, and under the river into OCS D Treatment Plant No. 2 in Huntington Beach. The purpose of this important project was to replace and update an aging system and meet future pumping requirements. The existing force main/gravity pipe system was undersized and conflicted with facilities currently under construction at Plant No. 2.

The project was substantially completed in early May 2010; however, soil has settled after construction and OCS D staff



Construction site and artist rendering of the new Rocky Point Pump Station in Newport Beach.

is working diligently with the contractor on a restoration plan to bring all facilities back to pre-construction condition.

Newport Force Main Condition Assessment and Rehabilitation (Project No. 5-60)

The first phase of this project consists of assessing the Newport Trunk Force Main along Pacific Coast Highway between 61st Street and Dover Drive. This force main pipeline was assessed in late 2009 using technology such as “SmartBall” testing and closed-circuit television inspection. The second phase will rehabilitate the force main based on findings from the assessment. Design is scheduled to begin in 2011 with construction planned for 2012.



The SmartBall is a foam ball with an instrument in the center that records acoustic activity as it passes through a pipeline. The information gathered is analyzed to accurately pinpoint the size and location of any leaks or pockets of trapped gas in the pipe.

Bayside Drive Sewer Improvement (Project No. 5-61)

In April 2010, construction of the Bayside Drive sewer improvement project was completed. The project consisted of rehabilitating the trunk sewer and a small city sewer that connects to the trunk line. By rehabilitating both sewers together, community disruption was minimized. A liner was installed in over a 1/2 mile of pipe to protect it from internal and external corrosion and increase the life expectancy of the pipe by 25-30 years. Lessons learned from the Coast Trunk Sewer project in Huntington Beach were applied during construction to this project to expedite the work to ensure the street was completely restored in time for the OC Marathon that occurred in May.

Dover Drive Trunk Sewer Relief (Project No. 5-63)

This project will replace a major trunk sewer along Dover Drive between Irvine Avenue and Pacific Coast Highway. The project will increase the hydraulic capacity for over one lineal mile of the existing 1–1.75 feet diameter pipeline. The project will involve major construction in a heavy congested section of Dover Drive. In order to minimize impacts to the neighborhood and commuters, we are working with the City of Newport Beach to address concerns and plan accordingly. Final design is scheduled for summer 2010 with construction anticipated to begin in spring 2011.

Multi-city Projects:

Anaheim, Yorba Linda

Santa Ana River Interceptor Realignment (Project No. 2-41)

This project provides for the protection and relocation of the Santa Ana River Interceptor (SARI) pipeline, currently located within the floodplain of the Santa Ana River between Weir Canyon Road and the county line. The project will relocate approximately four miles of pipeline that have been impacted by high storm water releases from Prado Dam.

The SARI carries 42 million gallons per day of commercial and industrial wastewater from Orange, Riverside, and San Bernardino Counties to OCSD’s Treatment Plant No. 2. The Santa Ana River improvements have created a potential for higher storm water flows and increased the risk of erosion of the existing sewer. Relocating this pipeline out of the flood plain will eliminate the threat of damage during a large storm.

This is a cooperative project with the County of Orange, the Santa Ana Watershed Project Authority (SAWPA) and OCSD. The County of Orange is currently leading the project and OCSD and SAWPA provide technical support. An environmental impact report was completed and the final design review is in progress. Construction is scheduled to begin by February 2011 with an estimated completion by December 2012.



A four-mile segment of the Santa Ana River Interceptor pipeline will be rerouted out of the riverbed to protect the sewer system from erosion.

Fountain Valley, Garden Grove, Westminster

**Magnolia Trunk Sewer Rehabilitation
(Project No. 3-58)**

This project will rehabilitate approximately five miles of the existing Magnolia Trunk Sewer which intersects various cities. The work will take place along Bushard and Magnolia Streets, between Ellis and Westminster Avenues. Using the design-build delivery method, a first for OCSD, the sewer will be rehabilitated along with 30 manholes, one siphon, and connections to 29 existing incoming sewer laterals. The procurement with a design-build firm started in 2009 and a contract was awarded in June 2010. The final design and construction is scheduled to commence in fall 2010.

Coordination between the three cities and OCSD began last year. Every effort is being made to ensure the needs of the impacted groups are met throughout the project. A community liaison has been assigned to the design-build team to maintain communication with the public and keep them abreast of the project as it progresses and reaches their specific area of concern.



Secondary treatment expansion projects at OCSD

In July 2002, the OCSD Board of Directors voted to treat 100 percent of collected wastewater to full secondary treatment standards, allowing OCSD to produce higher-quality treated water and increase water reclamation flows to the Orange County Water District. This strengthens our commitment to the residents of Orange County to provide for continued public health and preservation of the environment through water recycling. OCSD decided to retire its existing site-specific ocean discharge permit and replace it with a conventional secondary treatment discharge permit.

A consent decree was voluntarily entered into in October 2004 between OCSD, the Environmental Protection Agency, and the Regional Water Quality Control Board that set interim effluent limits and deadlines for completion of new secondary treatment facilities by the agreed upon date. To be able to treat current and future flows of wastewater to full secondary treatment standards, four facilities need to be constructed or expanded at OCSD's treatment plants by December 2012.

The status of the consent decree milestone for the four construction projects are in the adjacent table and project descriptions are listed below.

Trickling Filter Rehabilitation and New Clarifiers at Plant No. 1 (Project No. P1-76) – Completed

This project was completed in 2006, 16 days ahead of the consent decree milestone deadline of March 15, 2006. The project consisted of removing four trickling filters at Reclamation Plant No. 1 and replacing them with two new trickling filters and two new clarifiers. Also included were the construction of a new power building to support the increased electrical demand, as well as two effluent lines including one to the Groundwater Replenishment System inlet structure and one to the 5.5-foot diameter interplant pipeline. Several junction structures were also installed to allow flexibility of flow distribution.

The new facility has improved the effluent quality and allows greater capacity should additional secondary treatment be needed.

Rehabilitation of Activated Sludge Plant at Plant No. 2 (Project No. P2-74) – Completed

This project rehabilitated secondary treatment facilities to provide reliable secondary treatment. Included in the work were replacement of major mechanical equipment items such as gates, valves, impeller blades, and piping that had begun to fail or were at the end of their useful life. The project also called for relining large diameter pipes, adding odor control to the aeration basin splitter box, installing bleach pipelines and injection points, and replacing and upgrading instrumentation and controls. The project was completed in 2008, over 200 days ahead of the January 15, 2009 consent decree milestone deadline.

Project	Consent Decree Milestone	Due Date	Status
P1-76	Complete Construction	03/15/2006	Completed
P1-102	Advertise for Construction	11/15/2006	Completed
P2-90	Advertise for Construction	01/15/2007	Completed
P2-74	Complete Construction	01/15/2009	Completed
P2-90	Complete Construction	02/15/2011	On schedule
P1-102	Complete Construction	11/15/2012	On schedule
Full Compliance with Consent Decree		12/31/2012	On schedule



Inside a new dome-covered trickling filter at Plant No. 2. Similar to the trickling filters at Plant No. 1, modules of plastic media fill the 2-story filters. 5.3 million sq. ft. of media surface area (enough to cover the Staples Center six times).

Trickling Filters at Plant No. 2 (Project No. P2-90) – in Construction

This large project expands secondary treatment facilities at Plant No. 2 to meet secondary treatment standards. This project includes construction of three trickling filters, a solids contact basin, six clarifiers, odor control scrubbers, and a pump station for additional secondary treatment capacity of 60 million gallons of water per day. A major achievement for this project was meeting the first consent decree milestone to complete design and advertise for bids on schedule.

The project is currently 92 percent complete and scheduled to meet the February 15, 2011 consent decree date. Testing and commissioning of the facility will be completed in June 2011.



Aerial view of the new trickling filter project construction site at Plant No. 2.

New Secondary Treatment System at Plant No. 1 (Project No. P1-102) – *in Construction*

The project, which encompasses 12 acres of land at our Fountain Valley plant, expands secondary treatment facilities to meet secondary treatment standards. The project includes construction of six aeration basins, six clarifiers, a blower building, and return sludge and waste pumping stations. Once completed, the project will increase secondary treatment capacity at Plant No. 1 by 60 million gallons of water per day. The activated sludge process was chosen as the most cost-effective process to achieve secondary standards and allow future water reclamation activities at Plant No. 1.

The five-year construction project is currently 85 percent complete and estimated to be completed in November 2011, one year ahead of the November 15, 2012 consent decree milestone deadline. Once this project is completed, we will be in full compliance with the consent decree.



P1-102 construction includes a new secondary effluent junction box. The new junction box will allow the effluent from the new aeration basin facility to combine with effluent from the existing facilities. The pipelines in the photo are two 9-foot diameter plant effluent lines.

OCSD Reclamation Plant No. 1 projects

Our Reclamation Plant No. 1 facility located in Fountain Valley, California is currently undergoing and preparing for construction upgrades. Plant No. 1 currently treats an average influent wastewater flow of approximately 97 million gallons per day. After the upgrades and secondary expansion projects, the total design capacity of Plant No. 1 will be approximately 180 mgd.

Below are a few of the active and future construction projects.

Headworks Rehabilitation/Refurbishment (Project No. P1-71)

This project replaced the variable frequency drive (VFD) units for the Plant No. 1 headworks pumps, which reached the end of their service life. The headworks pumps are critical pieces of equipment. They move wastewater into the plant and prevent flooding in the collection system. The VFDs control the speed of the pump motors to accommodate various flow conditions. The work included the replacement of the units, cable tray clean up, new conduit and wiring, new air conditioning units, and minor modifications to its power building.

Construction started in August 2008. The VFDs were replaced one at a time with the final VFD becoming operational in April 2010. New air conditioning, miscellaneous building modifications, and some additional voltage testing were work components that occurred beyond the VFDs becoming operational. Substantial completion occurred in June 2010, with final completion scheduled for September 2010.



Inside the headworks pump room, bottom of motors.

Sludge Digester Rehabilitation (Project No. P1-100)

The three-year project to rehabilitate ten sludge digesters began in early 2010. The project replaces aging equipment and improves solids handling capacity. The equipment rehabilitation includes sludge pumping, heating, structural systems, mechanical systems, and electrical and control systems. Once completed, this project will help support the additional solids produced by the new secondary activated sludge facility at Plant No. 1 that is currently under construction.

The construction will be completed in phases to keep the treatment plant operational. The project is scheduled for completion in December 2013.



There are a total of 12 sludge digesters at Plant No. 1 that treat an average of 126,000 wet tons of solids a year.

Sludge Dewatering and Odor Control (Project No. P1-101)

As another support component of the secondary treatment expansion at Plant No. 1, this project constructs new dewatering and sludge thickening facilities, chemical storage and feed facilities, centrifuges, and rehabilitates the solids handling odor control equipment. It will also temporarily expand sludge dewatering facilities to accommodate temporary construction needs.

Once constructed, this project will increase the solids digestion and dewatering capacity resulting in significant biosolids disposal and cost savings.

The project is currently in design with an expected three-year construction starting in early 2012.



OCSD's Reclamation Plant No. 1 covers 200 acres and borders Ellis Avenue, Ward Street, Garfield Avenue, and the Santa Ana River. The main entrance is off Ellis and the 405 Freeway. It is called the "reclamation" plant because secondary treated wastewater from Plant No. 1 is pumped next door to the Orange County Water District (outlined in red) where it is further treated for reuse. The then reclaimed water is used for landscaping, industrial uses, injected into the seawater intrusion barrier or put through the Groundwater Replenishment System for groundwater supply. Treated wastewater from Plant No. 2 is recycled back into the environment to the ocean.



The sludge dewatering project replaces existing belt presses (pictured on left) that squeeze water from solids between rollers. They will be replaced with centrifuges (pictured on right), large drums that spin solids to thicken and dry or "dewater." After dewatering the treated solids, called biosolids, they are hauled away for recycling offsite. Centrifuges produce dryer, lighter biosolids, reducing hauling costs.

OCSD Treatment Plant No. 2 projects

OCSD's Treatment Plant No. 2, located in Huntington Beach, California, is in the midst of overhauling major components of its operation. Projects listed below include upgrades to the facility that will help OCSD meet secondary treatment standards. Plant No. 2 currently treats an average influent wastewater flow of approximately 110 million gallons per day. After the upgrades and secondary expansion projects, the total design capacity of Plant No. 2 will be approximately 150 mgd.

Headworks Improvements (Project No. P2-66)

The forty year-old headworks facility at Plant No. 2 is being replaced with a new state-of-the-art system. The new headworks project includes 14 new structures and replaces several large pieces of process equipment: influent diversion and metering structure, bar screens, influent pump station, vortex grit chambers, primary influent splitter and metering structure, ferric chloride feed facilities, headworks and trunk line odor control facilities, screenings handling, and electrical facilities with power equipment for all the facilities including standby power.

The many improvements will enable the headworks facility to perform at an optimal level. It will significantly reduce odor emissions by providing two-stage (biofilters and chemical) scrubbers and it will improve the efficiencies of the solids handling processes, as well as provide a safer work environment for staff.

The project is approximately 93 percent complete, and is currently undergoing testing. Completion is expected in early 2013.

Primary Treatment Rehabilitation/Refurbishment and Primary Sludge Feed System Upgrade (Project No. P2-80/P2-91)

The three-year project to replace the existing sludge pumps in the primary treatment facilities at Plant No. 2 is now complete. The new sludge pumps and grinders provide a more uniform sludge to the digesters which improves digestion efficiency and effectiveness. The project also upgraded the scum system and rehabilitated and refurbished the concrete and steel in the primary clarifiers.

The replacement of the sludge pumps was required to support the new sludge blending facility installed as part of the primary sludge feed system upgrade project. This project, which was also completed in June 2010, installed piping to interconnect the primary sludge system and digester feed system.



The headworks improvements project replaces the influent pumps with five new 700 hp pumps capable of raising the water almost four stories to allow gravity to push the flow through the rest of the treatment plant.



One of the new odor control structures of the headworks improvement project includes a five-story complex that houses 16 biological and eight chemical air scrubbers that remove odors from the foul air piped from various other headworks processes.



OCSD's Treatment Plant No. 2 spans 200 acres and borders Brookhurst Street, the Santa Ana River, and Pacific Coast Highway in Huntington Beach, CA.

Solids Thickening and Processing Upgrades (Project No. P2-89)

Currently under design, this support project, will rehabilitate sludge thickening facilities to treat current and future solids expected from the trickling filters (P2-90) secondary expansion project currently under construction. As part of the work, two holding digesters will be converted into working digesters to accommodate the increased production of sludge once we are operating at secondary treatment standards.

Preliminary design is complete and it is now in final design. The project is expected to begin construction in summer 2012 with a completion date of fall 2015.



Solids from the wastewater treatment process are thickened and processed with heat and bioorganisms in large structures called digesters. There are 17 digesters at Plant No. 2 that treat an average of 120,00 wet tons of solids a year. Solids production at both plants is projected to increase when full secondary expansion construction projects are online and all influent wastewater is treated through secondary treatment processes in 2013.

Joint OCSD treatment plant projects

Joint treatment plant projects (referred internally as joint works and special projects) are those that benefit both treatment plants, many times stretching across plant boundaries or relating to support facilities that are not treatment process oriented. These projects involve mechanical, electrical, instrumentation and control systems, and the buildings that house these systems.

Power Monitoring and Control Systems (Project No. J-33-3)

In an effort to increase our power reliability at Plant No. 1, electrical power monitoring and control equipment will be installed to protect the plant from power outage problems and reduce the recovery time when problems do occur. The control system will continuously adjust the electrical system to prevent power variations and outages from causing process failures. The new system will sense power variations and selectively disconnect noncritical equipment, keeping our central generation power system powering the critical equipment. When the Southern California Edison Company power supply has stabilized, non-critical equipment can then reconnect to the SCE supply.

SCE supplies 66,000 volts of electricity to Plant No. 1. The plant distribution system has sophisticated controls to protect workers and equipment from the serious problems that can occur with these high voltages. In the past, our central generation power system typically produced all the plant power, using SCE to cushion demand fluctuations. Due to recent air emissions limitations and with future expansion, the plants will be more dependent on SCE and more vulnerable to power variations and outages than previously encountered. This project will greatly improve response time and worker safety by using automated and remote controls, and provide a safety feature by allowing staff to operate high voltage electrical equipment from one central location without being in close proximity to it.

The project is scheduled to bid early 2011 with an estimated two-year construction period.

Air Quality Improvements (Project No. J-79)

In an effort to maintain compliance with future South Coast Air Quality Management District toxic air emission rule limits, this project evaluates options for modifying operation of the central generation power systems at both Plant No. 1 and Plant No. 2. The project includes a study to determine the impacts that new air quality regulations have on existing power generation systems and evaluated the cost of upgrades and new technologies necessary to meet future stringent regulations.

A second pilot test is being conducted of an emissions reduction unit. It was installed on an engine at Plant No. 1 in order to facilitate full-scale testing as a solution to meet compliance. The pilot unit is performing as required to meet conditions set forth in the proposed amendments to the SCAQMD Rule. A final report is due in October 2010.



Project No. J-79 – OCSD is pilot testing new technologies to remove air toxics from internal combustion engine exhaust. After the successful testing of catalyst system technology at Plant No. 2, a two-step catalyst unit with a digester gas pre-cleaning system was installed at Plant No. 1 to test its capabilities of reducing NOx and CO emissions. Full-scale installation on eight engines of this new emission control technology is estimated at \$31 million.

Central Generation Automation (Project No. J-79-1)

This project is replacing the engine control systems for the central generation power systems at both Plant No. 1 and Plant No. 2. As part of the project, there will be improvements of the operating communications between the plants, electrical load management, and control of exhaust emissions.

The replacement project is taking place because the existing engine control systems are no longer manufactured or supported by the original manufacturer and timely replacement of parts is not reliable. The new system will provide automatic load management capability, as well as an emission monitoring feedback signal for exhaust emissions control which the current system does not do. The project is currently 60 percent complete and scheduled for final completion in summer 2011.

Treatment Plant Strategic Plan Update (Project No. J-102)

This project updated three recent master planning documents: the 1999 Strategic Plan; the 2002 Interim Strategic Plan Update; and the 2006 Collection System Strategic Plan Update. The update incorporates follow-up site planning and special studies, and implements Board-approved level of service goals from the OCSD strategic plan. Two reports were created under this effort: the 2007 Energy Master Plan,





For more than 30 years OCSD has used digester gas, also called biogas, a natural by-product of the treatment process, to fuel our plants to save energy. The central power generation system helps us achieve our productivity and energy conservation goals by using all of the biogas we create. It allows OCSD to save millions of dollars each year and pass those savings on to our ratepayers. Eight internal combustion engines, three engines at Plant No. 1 and the five engines at Plant No. 2, drive generators that produce electricity and heat water used to run our two treatment plants. Currently OCSD is reevaluating the engines to meet more stringent air quality regulations.

and the 2009 Facilities Master Plan. These plans identify the capital improvement needs of OCSD through 2030, and provide the information needed for planning and budgeting those improvements.

Temporary Upgrades to Plant Security Barriers (Project No. J-108)

Plant No. 1 is getting a few upgrades to improve the look and security of the facility. Earlier in the year, we began construction of a new perimeter wall that extends 1,300 feet from the front entrance of the plant down Ellis Avenue. The new brick wall will be eight feet high and made to match the Orange County Water District's wall to create a cohesive look between the two facilities. A pedestrian gate and an emergency access gate will also be installed for ADA (Americans with Disabilities Act) compliance, both equipped with cameras, intercoms, and card readers linked to OCSD's control center. The main visual impact will be a new sign installed at the entrance of the treatment plant, including a widened entrance road to ease access into the facility.

The project is being coordinated with the City of Fountain Valley and is currently 30 percent complete. The sidewalk installation is scheduled for fall 2010. The entire project is scheduled for completion in fall 2011.

Central Generation Cooling Water System Replacement (Project No. J-109)

In an effort to reduce cost, the existing cooling system equipment at both plants will be replaced. The project will improve heat

recovery from the central power generation engines and reduce water consumption by replacing the existing once-through cooling systems with a more efficient system. OCSD currently buys reclaimed water from the Orange County Water District to cool mechanical equipment. This water is expensive and contains chemicals that damage the equipment. By reducing the amount of water consumed by the process, it will reduce

The original idea for the J-109 project came from OCSD employee, Pump Power Operator Skip Berner. Skip's idea was tested and proved to be very effective. After it is implemented, OCSD will use up to 19 percent less purchased water with a net savings of over \$80,000 a year.



the need to purchase water and thus reduce cost. The project is currently under design and scheduled for construction in 2012.

Fuel Cell Hydrogen Gas Generation Research (Project No. SP-134)

OCSD has agreed to be the host site for a multi-agency collaborative project between the University of California at Irvine, the Federal Department of Energy, the California Air Resources Board, Air Products and Chemicals, Inc., and Fuel Cell Energy. The project consists of constructing a fuel cell to utilize a portion of OCSD's digester gas (a "renewable resource") at Plant No. 1 to generate both electricity for on-site use and extract hydrogen gas for fueling fuel cell driven automobiles.

The project is currently on schedule and will be on-line this summer with a hydrogen fueling station for vehicles completed in October 2010. The entire research project will last approximately three years and then be removed.



Fuel cell pilot study installation – this technology could potentially replace the central power generation system engines, thus reducing air emissions while producing power, heat, and hydrogen fuel.



3 Financial data and contract activity

Financial data and contract activity

Current budget

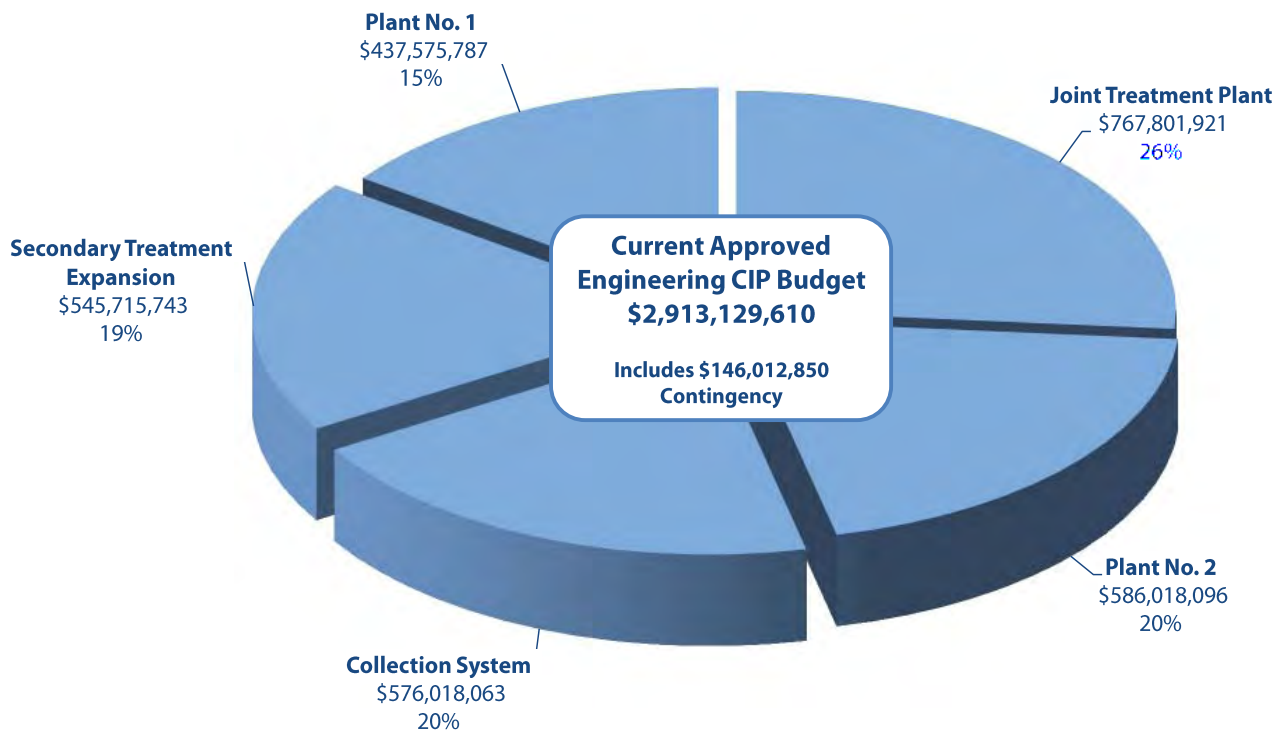
The Engineering capital improvement program was developed in 2002 with budget beginning in Fiscal Year 2003-04. The following tables highlight the projects, budget, cash flow, and progress thus far.

Additional projects included in the agency's CIP budget, such as those in Information Technology (computer network related) and miscellaneous operating and support projects are not included in the Engineering CIP.

The pie chart below shows how the total approved budget is allocated.

Engineering CIP Budget Recap	
Initial Engineering CIP Budget for FY 2003/04	\$ 2,453,671,964
Added Projects for FY 2004/05	\$ 65,985,100
Added Projects for FY 2005/06	\$ 120,005,277
Added Projects for FY 2006/07	\$ 68,651,000
Added Projects for FY 2007/08	\$ 42,554,371
Added Projects for FY 2008/09	\$ 80,959,000
Added Projects for FY 2009/10	\$ 116,105,291
Total (Initial Budget and Added Projects)	\$ 2,947,932,003
Board Approved Changes (Accumulated Total)	\$ (34,802,393)
Grand Total	\$ 2,913,129,610

Board approved changes include project scope changes, escalation to future year dollars, project cancellations, and other cost adjustments.

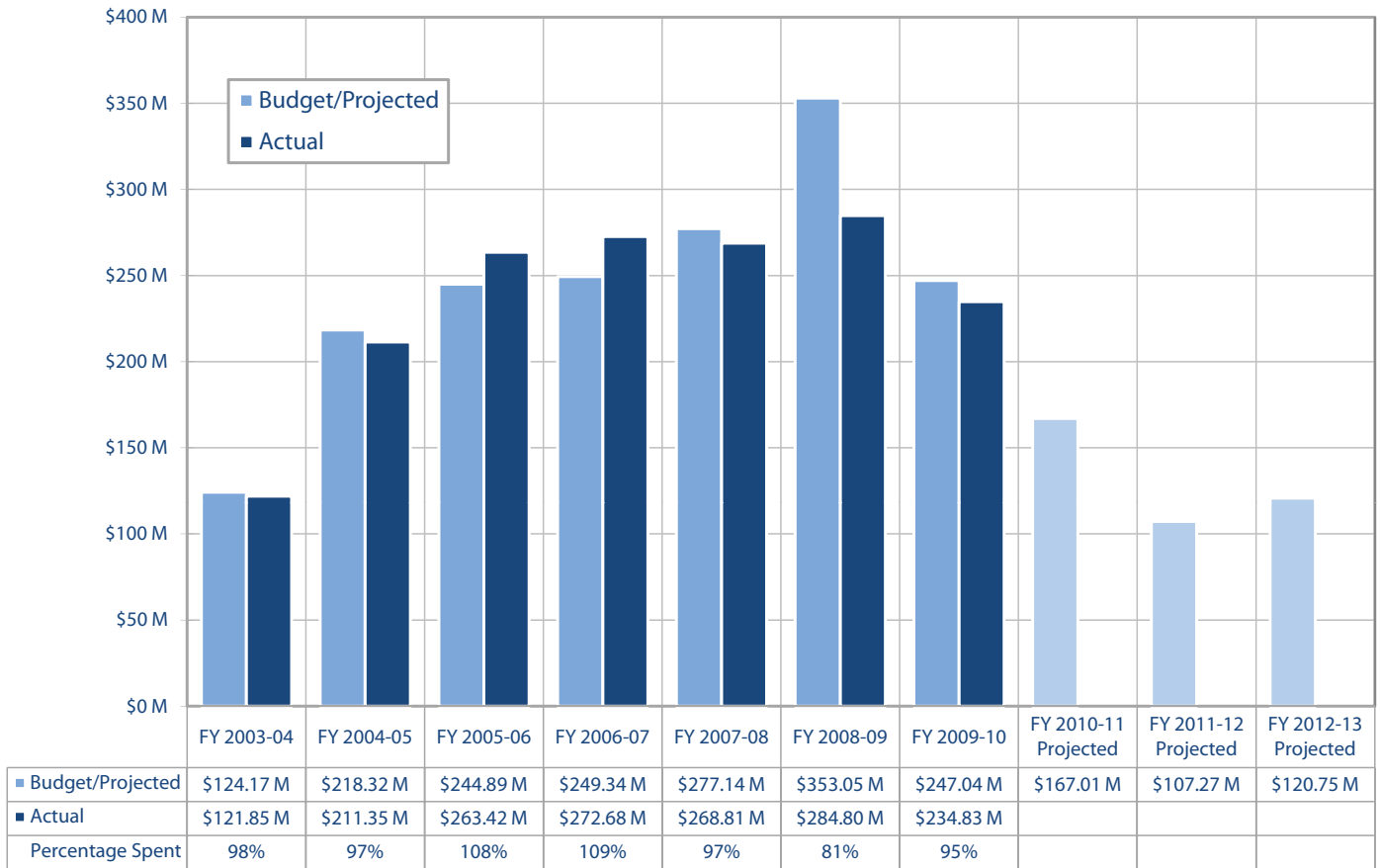


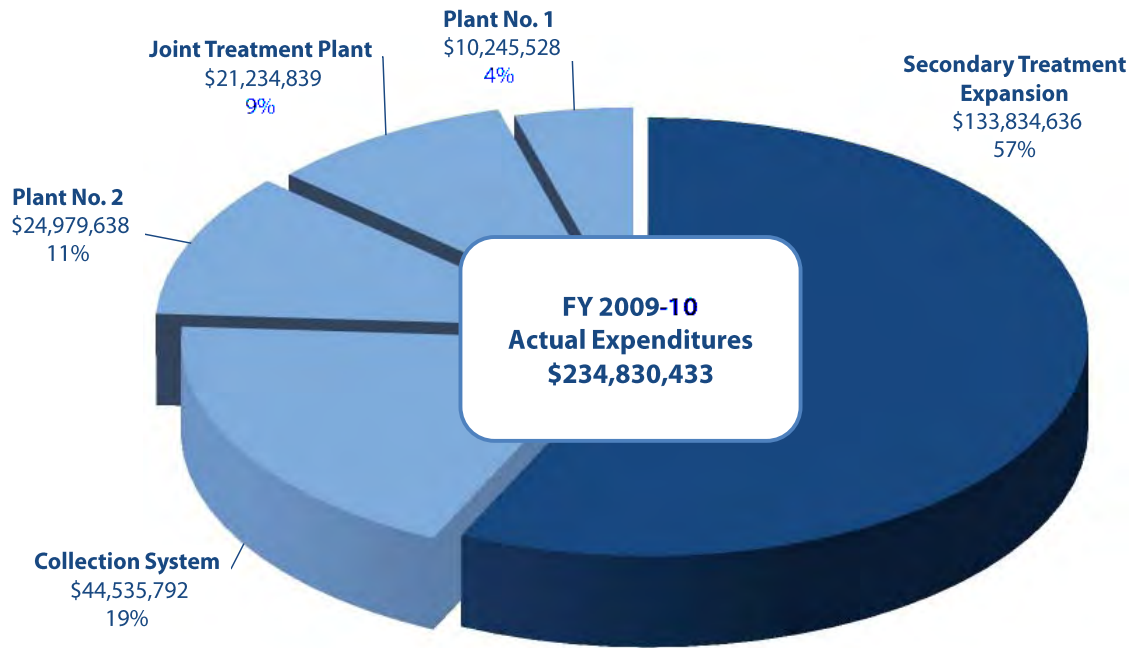
Program cash flows

Cash flow reports track actual expenditures compared to those in the CIP. At the beginning of each fiscal year, expenditures are forecasted based on the approved budget and individual project schedules, which establishes the budgeted cash flow for the current fiscal and projections for the future years.

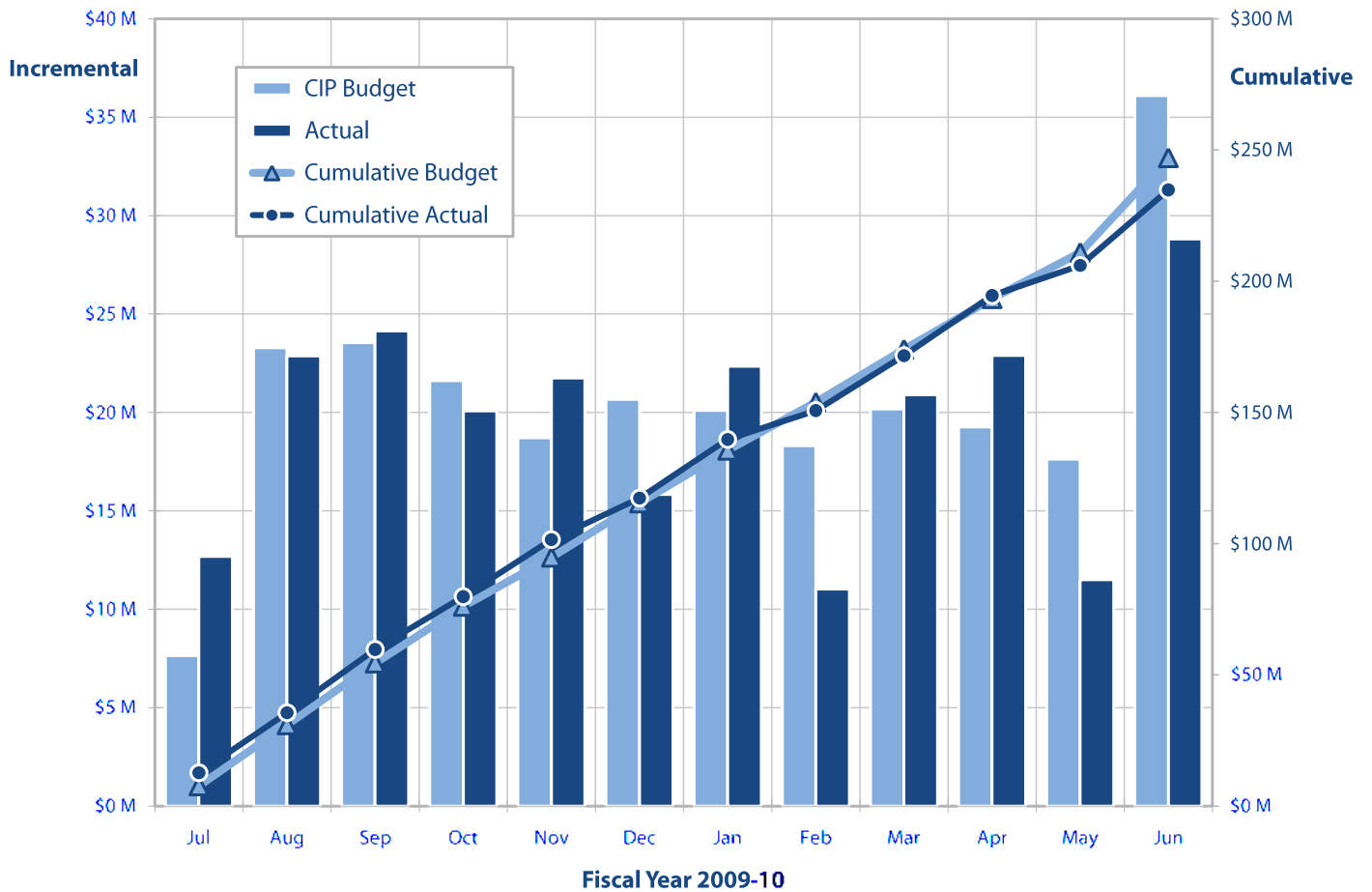
The chart below shows the historical trend and projection through Fiscal Year 2012-13. Actual expenditures per subprogram for the reporting Fiscal Year 2009-10 and projections for the next year are on the subsequent pages.

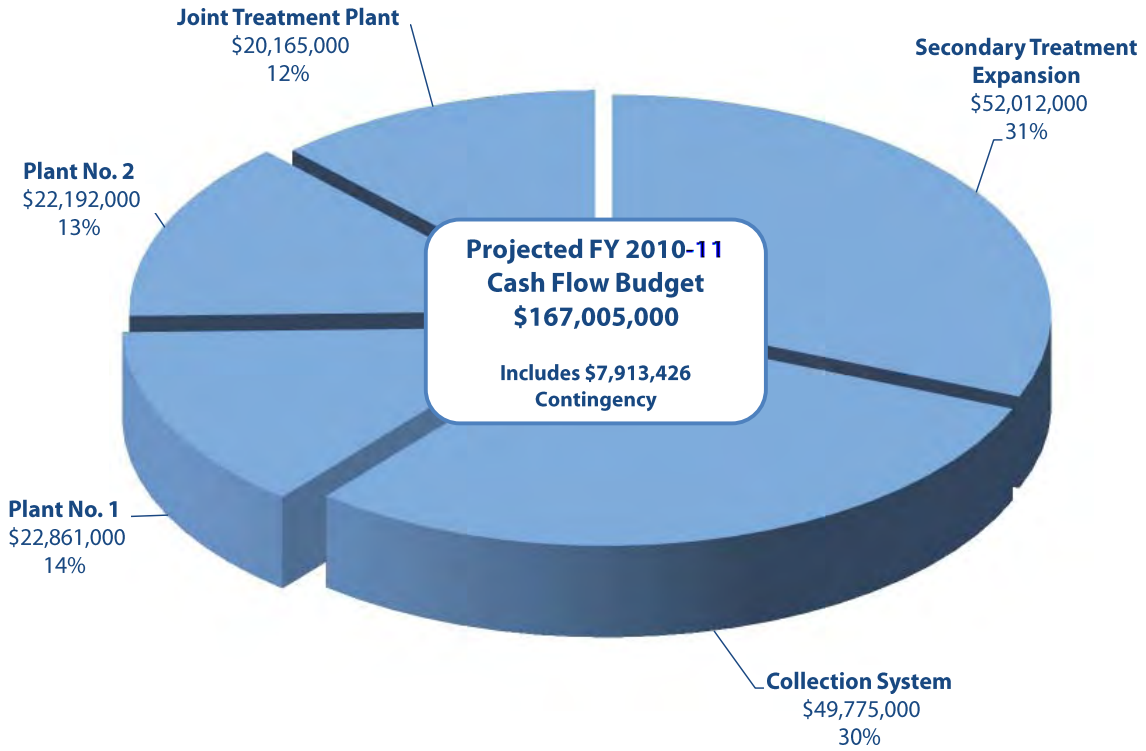
Cash Flow Budget and Actual Totals by Fiscal Year



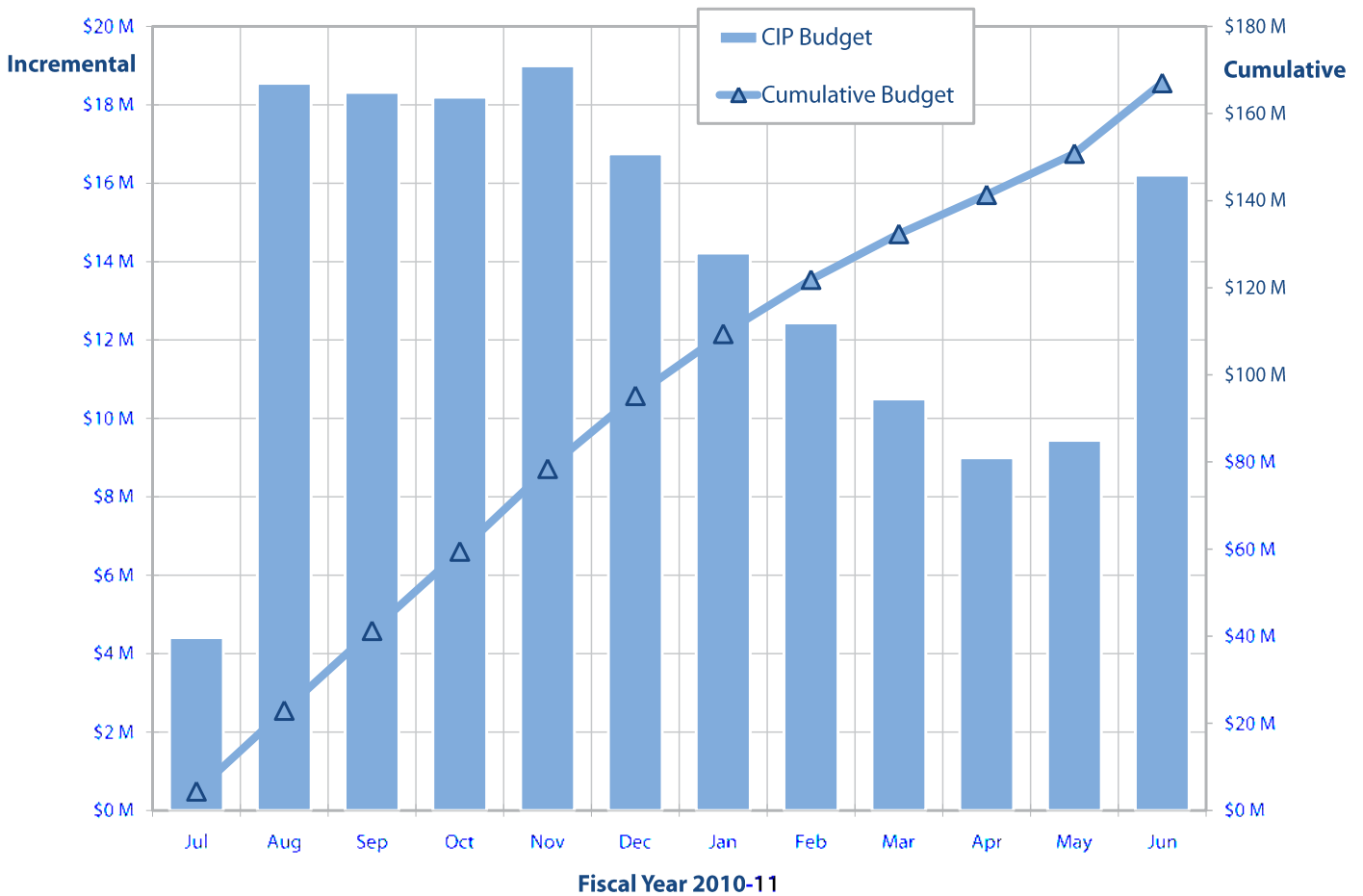


FY 2009-10 Cash Flow Budget and Actual Totals by Month





FY 2010-11 Forecasted Cash Flow by Month



Contract activity

In a collaborative effort between Engineering and the Contracts Administration Division, OCSD awarded close to \$48 million in professional services agreements and construction contracts during the fiscal year.

Six construction contracts were completed in FY 2009-10. The completed projects table below refers to projects whose physical construction was completed; testing and close-out were still pending.

Contracts awarded this fiscal year					
City	Project No.	Project Name	Professional Services Agreement Awarded to	Amount of Award	Date of Award
FV	J-108	Temporary Upgrades to Plant Security Barriers	RBF Consulting, Inc.	\$ 105,301	12/16/09
HB	J-112	Outfall Land Section and OOBs Piping Rehabilitation	Black & Veatch	\$ 1,271,814	12/16/09
NB	5-50	Rocky Point Pump Station Replacement	Malcolm Pirnie, Inc.	\$ 897,650	8/26/09
NB	5-61	Bayside Drive Improvement	Dudek & Associates, Inc.	\$ 149,781	8/26/09
City	Project No.	Project Name	Construction Contract Awarded to	Amount of Award	Date of Award
Anaheim, YL	2-41-6	Santa Ana River Interceptor 2009 Protection Repairs	Jamison Engineering	\$ 552,245	9/24/09
NB	5-50	Rocky Point Pump Station Replacement	Kiewit Pacific Co.	\$ 8,383,000	11/3/09
NB	5-61	Bayside Drive Improvement	Colich and Sons	\$ 1,385,000	10/15/09
FV	J-108	Temporary Upgrades to Plant Security Barriers	L. H. Engineering Company, Inc.	\$ 962,751	1/26/10
FV	P1-100	Sludge Digester Rehabilitation at Plant 1	J.R. Filanc Construction	\$ 33,500,000	3/30/10
City	Project No.	Project Name	Design-Build Contract Awarded to	Amount of Award	Date of Award
FV, GG, Westmin.	3-58	Magnolia Trunk Sewer Rehabilitation	Kiewit Pacific Co.	\$ 15,190,000	6/23/10

Construction contracts completed				
City	Project No.	Project Name	Contractor	Amount of Award
Anaheim YL	2-41-6	Santa Ana River Interceptor 2009 Protection Repairs	Jamison Engineering	\$ 552,245
Brea	2-24-1	Carbon Canyon Dam Sewer & Pump Station Abandonment	Ken Thompson, Inc.	\$ 5,367,450
FV	I-10B	Ellis Pump Station Replacement (became Steve Anderson Lift Station)	J.F. Shea Construction, Inc.	\$ 30,637,501
FV	P1-97	Plant 1 66KV Substation	Miron Electric	\$ 4,592,912
FV, HB	J-79-1	Central Generation Automation	Morrow Meadows Corp.	\$ 4,553,286
HB	11-26	Coast Trunk Sewer Rehabilitation	Steve Bubalo Construction	\$ 5,556,013

4 Engineering capital improvement projects

Engineering capital improvement projects

Project status

Projects labeled as complete and/or on schedule refer to physical construction only; testing and final completion are still pending.

Estimated at completion refers to the allocated funds for the entire project; this includes project development, assessments, design, construction, testing, etc.

Number of projects	
At Program Inception (FY 2003-04)	125
Added as of June 30, 2010	83
Cancelled as of June 30, 2010	(52)
Not Started or On Hold	(32)
Closed/Completed	(66)
Active Projects as of June 30, 2010	58

Current phase of projects	
Phase	Number of Projects
1 – Project Development	14
2 – Preliminary Design	4
3 – Design	14
4 – Construction and Installation	15
5 – Commissioning (testing)	1
6 – Closeout	10
Active Projects as of June 30, 2010	58

Collection system projects by city										Project Description in Report
City	Project No.	Project Name	Current Phase	OCSD Project Manager	Consultant	Contractor	✓ On Schedule Construction Finish Date	✓ On Budget Estimate Total Project Cost at Completion		
1. Anaheim, YL	2-41	SARI Realignment	3	Hardat Khublall	Tetra Tech/HDR	TBD	05/02/13	✓ \$ 6,463,165	pg. 5, 10	
2. Brea	2-24-1	Carbon Canyon Dam Sewer and Pump Station Abandonment	6	Hardat Khublall	RBF Consulting	Ken Thompson	7/24/2009 completed	✓ \$ 8,905,326		
3. CM	7-47	College Avenue Pump Station Rehabilitation	5	Alberto Acevedo	RBF Consulting	Olsson Construction	5/1/2010 completed	✓ \$ 11,236,214	pg. 8	
4. FV	I-10B	Ellis Pump Station Replacement (became Steve Anderson Lift Station)	6	Steven Schock	Malcolm Pirnie	J.F. Shea Const., Inc./ Barnard Construction	3/27/2009 completed	✓ \$ 79,082,009		
5. FV, GG, Westmin.	3-58	Magnolia Trunk Sewer Rehabilitation	4	Alberto Acevedo	Earth Tech	Kiewit Pacific Co.	01/05/12	✓ \$ 26,728,337	pg. 5, 11	
6. FV, CM Santa Ana	1-17	Santa Ana Trunk Sewer Rehab	2	Martin Dix	Brown and Caldwell	TBD	01/26/16	✓ \$ 21,269,708		
7. GG	15-04	North County Collections Yard	3	Chris MacLeod	MVA Architects	TBD	01/27/12	✓ \$ 12,246,467		
8. HB	11-26	Coast Trunk Sewer Rehabilitation	6	Alberto Acevedo	Malcolm Pirnie	Steve Bubalo Construction	11/19/2009 completed	✓ \$ 9,132,300	pg. 8	
9. Irvine, Tustin	7-37	Gisler - Red Hill Trunk Improvements - Reach B	3	Hardat Khublall	Tetra Tech	TBD	05/22/12	✓ \$ 9,621,778		
10. Los Alamitos/ Rossmoor	3-52	Westside Pump Station Rehabilitation	4	Alberto Acevedo	PBS&J	Olsson Construction	09/17/10	\$ 11,756,170	pg. 8	
11. NB	5-47	Balboa Trunk Sewer Rehabilitation	2	Pamela Koester	AECOM	TBD	08/01/13	✓ \$ 8,402,139	pg. 9	
12. NB	5-49	Bitter Point Pump Station Replacement	4	Martin Dix	Lee & Ro	Kiewit Pacific Co.	05/04/12	✓ \$ 32,665,188	pg. 9	
13. NB	5-50	Rocky Point Pump Station Replacement	4	Martin Dix	Malcolm Pirnie	Kiewit Pacific Co.	09/13/11	✓ \$ 20,918,468	pg. 9	
14. NB	5-58	Newport Trunk Sewer and Force Main	4	Alberto Acevedo	Black & Veatch	Mladen Buntich Construction	11/30/10	✓ \$ 25,913,811	pg. 9	
15. NB	5-60	Newport Force Main Condition Assessment and Rehabilitation	2	Victoria Pilko	Malcolm Pirnie/ Lee & Ro	TBD	06/29/13	✓ \$ 22,599,701	pg. 10	
16. NB	5-61	Bayside Drive Sewer Improvement	6	Martin Dix	Dudek & Associates	Colich and Sons	4/23/2010 completed	✓ \$ 3,396,498	pg. 10	
17. NB	5-63	Dover Drive Trunk Sewer Relief	3	Hardat Khublall	PBS&J	TBD	01/14/13	\$ 13,375,791	pg. 10	
18. Unincorp County	7-61	County Island Annexation and CEQA Documentation (Cowan Heights, Lemon Heights, Orange Park)	2	James Burror	TBD	TBD	n/a	✓ \$ 300,000		
								Closed Projects	\$ 166,863,341	
								Canceled Projects	\$ 2,942,569	
								Future Projects	\$ 125,241,225	
Collection system projects total								\$ 619,060,205		

Secondary treatment expansion projects at OCSD										
	City	Project No.	Project Name	Current Phase	OCSD Project Manager	Consultant	Contractor	✓ On Schedule Consent Decree Deadline	✓ On Budget Estimate Total Project Cost at Completion	Project Description in Report
1.	FV	P1-76	Trickling Filter Rehabilitation and New Clarifiers at Plant 1	CLOSED	Dean Fisher	Black & Veatch	J.R. Filanc Const. Company, Inc.	✓ 3/15/2006 completed	✓ \$ 46,018,662	pg. 12
2.	FV	P1-102	New Secondary Treatment System at Plant 1	4	Dave MacDonald	Black & Veatch	Kiewit Pacific Co.	✓ 11/15/12	✓ \$ 260,374,132	pg. 13
3.	HB	P2-74	Rehab of Activated Sludge Plant at Plant 2	CLOSED	Kathy Millea	MWH	J.F. Shea Const., Inc.	✓ 1/15/2009 completed	✓ \$ 16,159,081	pg. 12
4.	HB	P2-90	Trickling Filters at Plant 2	4	Kathy Millea	Brown and Caldwell	J.F. Shea Const., Inc.	✓ 02/15/11	✓ \$ 223,271,890	pg. 12
Secondary treatment expansion projects total									\$ 545,823,765	

OCSD Reclamation Plant No. 1 projects										
	City	Project No.	Project Name	Current Phase	OCSD Project Manager	Consultant	Contractor	✓ On Schedule Construction Finish Date	✓ On Budget Estimate Total Project Cost at Completion	Project Description in Report
1.	FV	P1-71	Headworks Rehabilitation/ Refurbishment	6	Wendy Sevenandt	Carollo Engineers	Helix Electric, Inc.	✓ 09/16/10	✓ \$ 8,394,624	pg. 14
2.	FV	P1-82	Activated Sludge Plant Rehabilitation	6	Wendy Sevenandt	HDR	J.R. Filanc Const. Company, Inc.	✓ 05/12/09 completed	✓ \$ 46,761,000	
3.	FV	P1-97	Plant 1 66KV Substation	6	Martin Dix	CDM	Miron Electric	✓ 06/26/09 completed	\$ 16,526,053	
4.	FV	P1-100	Sludge Digester Rehabilitation at Plant 1	4	Umesh Murthy	AECOM	J.R. Filanc Const. Company, Inc.	✓ 06/05/13	✓ \$ 55,521,499	pg. 14
5.	FV	P1-101	Sludge Dewatering and Odor Control at Plant 1	3	Umesh Murthy	HDR	TBD	✓ 09/15/14	✓ \$ 143,565,818	pg. 14
6.	FV	P1-111	Power Building 3A Standby Generator Upgrade at Plant 1 Study	1	Gary Conklin	TBD	TBD	✓ 04/21/15	✓ \$ 544,534	
7.	FV	P1-112	Plant Water System Rehabilitation at Plant 1	1	Victoria Pilko	TBD	TBD	✓ 05/12/15	✓ \$ 3,752,336	
8.	FV	P1-115	Title 24 Access Compliance Improvements at Plant 1	1	Chris MacLeod	TBD	TBD	✓ 12/19/18	\$ 9,999,396	
9.	FV	P1-116	Primary Clarifiers 6-31 Evaluation and Optimization Study	1	Gary Conklin	TBD	TBD	n/a	\$ 203,216	
Closed Projects									\$ 97,234,722	
Canceled Projects									\$ 42,815	
Future Projects									\$ 114,237,316	
Reclamation Plant No. 1 projects total									\$ 496,783,329	

OCSD Treatment Plant No. 2 projects										
	City	Project No.	Project Name	Current Phase	OCSD Project Manager	Consultant	Contractor	✓ On Schedule Construction Finish Date	✓ On Budget Estimate Total Project Cost at Completion	Project Description in Report
1.	HB	P2-66	Headworks Improvements at Plant 2	4	Pamela Koester	Carollo Engineers	J.F. Shea Const., Inc.	08/20/13	\$ 257,762,806	pg. 16
2.	HB	P2-80	Primary Treatment Rehabilitation Refurbishment	6	Steven Schock	Malcolm Pirnie	Shimmick Const.	✓ 5/3/2010 completed	✓ \$ 38,877,774	pg. 16
3.	HB	P2-89	Solids Thickening and Processing Upgrades	3	Steven Schock	MWH	TBD	✓ 08/06/15	✓ \$ 61,071,097	pg. 17
4.	HB	P2-91	Primary Sludge Feed System Upgrade	6	Steven Schock	Brown and Caldwell	Shimmick Const.	✓ 6/1/2010 completed	✓ \$ 26,316,024	pg. 16
5.	HB	P2-92	Sludge Dewatering & Odor Control at Plant 2	1	Dave MacDonald	TBD	TBD	✓ 12/07/16	\$ 63,308,624	
6.	HB	P2-96	Plant 2 Landscaping Project	1	Angie Anderson	TBD	TBD	TBD	\$ 554,076	
7.	HB	P2-101	Plant Water System Rehabilitation at Plant 2	1	Victoria Pilko	TBD	TBD	✓ 05/12/15	✓ \$ 3,803,731	
8.	HB	P2-105	Rehabilitation of the Digester Ferric Chloride System at Plant 2	1	Umesh Murthy	TBD	TBD	✓ 01/31/14	✓ \$ 2,629,898	
9.	HB	P2-106	Scrubber Conversions and Piping System	3	Chris MacLeod	DUDEK	TBD	✓ 06/27/12	✓ \$ 3,272,226	
Closed Projects									\$ 38,491,006	
Canceled Projects									\$ 1,035,090	
Future Projects									\$ 98,483,641	
Treatment Plant No. 2 projects total									\$ 595,605,993	

Joint treatment plant projects at OCSD											
City	Project No.	Project Name	Current Phase	OCSD Project Manager	Consultant	Contractor	✓ On Schedule Construction Finish Date	✓ On Budget Estimate Total Project Cost at Completion	Project Description in Report		
1.	All Cities	FE-C	Facilities Engineering Projects - Collections	4	Derek Davis	Varies	Varies	✓	Varies	✓ \$ 8,546,746	
2.	FV, HB	FE-J	Facilities Engineering Projects - Joint Works	4	Derek Davis	Varies	Varies	✓	Varies	✓ \$ 23,954,150	
3.	FV, HB	FE-P1	Facilities Engineering Projects - Plant 1	4	Derek Davis	Varies	Varies	✓	Varies	✓ \$ 21,363,639	
4.	FV, HB	J-106	Interplant Gas Line Rehabilitation	3	Martin Dix	M. J. Schiff & Associates	TBD	✓	05/22/12	\$ 4,504,334	
6.	FV, HB	J-79-1	Central Generation Automation	4	Dave MacDonald	Black & Veatch	Morrow Meadows/ Sachs Electric	✓	06/23/11	\$ 21,564,654	pg. 18
5.	FV	J-108	Temporary Upgrades to Plant Security Barriers	4	Victoria Pilko	RBF Consulting	L. H. Engineering Company	✓	11/25/11	\$ 2,722,152	pg. 19
7.	FV	J-109	Central Generation Cooling Water System Replacement Project	3	Victoria Pilko	Malcolm Pirnie	TBD	✓	08/10/12	\$ 10,014,747	pg. 19
8.	FV	J-33-3	Power Monitoring and Control Systems	3	Wendy Sevenandt	Black & Veatch	TBD		05/17/13	✓ \$ 12,121,767	pg. 18
9.	FV	J-36	Groundwater Replenishment System	6	Wendy Sevenandt	MWH	TBD	✓	8/28/2008 completed	✓ \$ 201,554,162	
10.	FV	J-71-8	Rehabilitation of Odor Control Facilities	3	Steven Schock	CDM	TBD		09/03/14	✓ \$ 44,157,835	
11.	FV	J-79	Air Quality Improvements	3	Dave MacDonald	Malcolm Pirnie	Olsson Construction	✓	9/1/2005 completed	✓ \$ 11,714,867	pg. 18
12.	FV	J-97	Laboratory Refurbishment at Plant 1	1	Chris MacLeod	The Austin Company	TBD		TBD	✓ \$ 443,934	
13.	FV	SP-116	USBR Brine Management Grant Project	1	James Burror	TBD	TBD		TBD	\$ 315,000	
14.	FV	SP-132	Fuel Cell Feasibility Study	1	Jacob Dalgoff	TBD	TBD		TBD	✓ \$ 101,787	
15.	FV	SP-134	Fuel Cell Hydrogen Gas Generation Research (Pilot Testing)	4	Chris MacLeod	Project Line	Sachs Electric		10/04/10	✓ \$ 601,806	pg. 19
16.	HB	FE-P2	Facilities Engineering Projects - Plant 2	4	Derek Davis	Varies	Varies	✓	Varies	✓ \$ 20,995,104	
17.	HB	J-112	Outfall Land Section and OOBS Piping Rehabilitation	2	Pamela Koester	Black & Veatch	TBD	✓	10/16/12	✓ \$ 7,398,961	
18.	HB	J-113	Outfall Land Section and OOBS Piping Rehabilitation - Study	1	Pamela Koester	TBD	TBD		TBD	✓ \$ 365,687	
19.	HB	J-119	Outfall Beach Box Rehabilitation Evaluation	1	Patrick McNelly	TBD	TBD		TBD	✓ \$ 380,000	
20.	HB	SP-129	Oxygen Plant Rehabilitation at Plant 2	3	Chris MacLeod	TBD	TBD	✓	02/17/12	✓ \$ 2,460,007	
								Closed Projects	\$ 175,829,254		
								Canceled Projects	\$ 5,662,036		
								Future Projects	\$ 130,255,930		
								Joint treatment plant projects total	\$ 707,028,559		

New projects beginning next Fiscal Year 2010-11				
City	Project No.	Project Name	Planned Start	
1.	CM	6-19	Southwest Costa Mesa Trunk	July 2010
2.	FV	P1-113	Trickling Filter Covers and Odor Control	July 2010
3.	NB	5-65	Lido Pump Station Pump Replacement	July 2010
4.	HB	J-110	Final Effluent Sampler	July 2010
5.	HB	P2-102	Solids Storage Building Odor Control	July 2010
6.	HB	P2-108	15 kV Upgrades at Plant 2	July 2010
7.	Westminster	11-32	Wintersburg Channel Siphon Protection Project	July 2010
8.	Anaheim, YL	2-41-7	Santa Ana River Interceptor 2010 Protection Repairs	August 2010
9.	HB	J-122	Operations Center Entrance/Building Repairs	October 2010
10.	FV	SP-153	Laboratory Water Piping Replacement	October 2010

New projects

The projects included in this table are in the project development phase. During this phase the scope of work is developed and a detailed plan to manage the project is created.

In closing

The Sanitation District appreciates the help and support received by the public and the various cities and agencies in our service area that contribute to the successful implementation of our capital improvement program.

FY 2010-11 Board of Directors

Cities

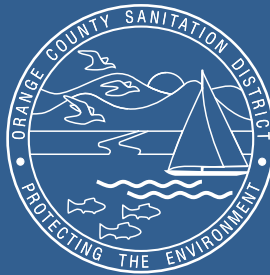
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Orange County Sanitation District
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10844 Ellis Avenue
Fountain Valley, California 92708

Treatment Plant No. 2
22212 Brookhurst Street
Huntington Beach, CA 92646



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